



Documenting Changes in Alaskan Glaciers with Historic Photography

Bruce F. Molnia

**U.S. Geological Survey
926A National Center
Reston, VA 20192**

**bmolnia@usgs.gov
703-648-4120**



If a picture is worth a thousand words, then what is the value of the information content of a pair of photographs that span a century, both taken from the same location, and both showing the same field of view?

Documenting Changes in Alaskan Glaciers with Historic Photography



- **More than 1,000 late-19th-century and early-20th-century photographs have been collected that show landscape features, including glacier termini throughout Alaska.**
- **The earliest of these photographs predates 1890.**
- **This photographic record spans about half of the Post-Little-Ice-Age period.**

The primary objective of this investigation is to document more than a century of landscape evolution and changes in glaciers, vegetation, hydrology, and sedimentation within selected Alaskan National Parks using historical photography.

The objective of this presentation is to present examples of the types of information that results from this on-going investigation and to demonstrate that the same approach can be equally successful in many other National Parks.

Parks Currently Involved

Denali National Park

Glacier Bay National Park

Kenai Fjords National Park

Parks That Could Become Involved

Aniakchak National Monument

Gates of the Arctic National Park

Katmai National Park

Lake Clark National Park

Wrangell – St Elias National Park



In the past five years, more than 100 locations from which historical photographs had been made were revisited and rephotographed.

Photographic comparisons clearly document:

- advance and retreat of larger glaciers;
- **short-term fluctuations of smaller glaciers;**
- transitions from tidewater termini to land-based, debris- covered termini;
- **rapid vegetative development and succession;**
- fiord sedimentation and erosion;
- **development of outwash and talus features; and**
- many other dramatic changes.

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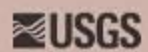




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Muir Inlet & Glacier - Riggs Glacier 1941-2004



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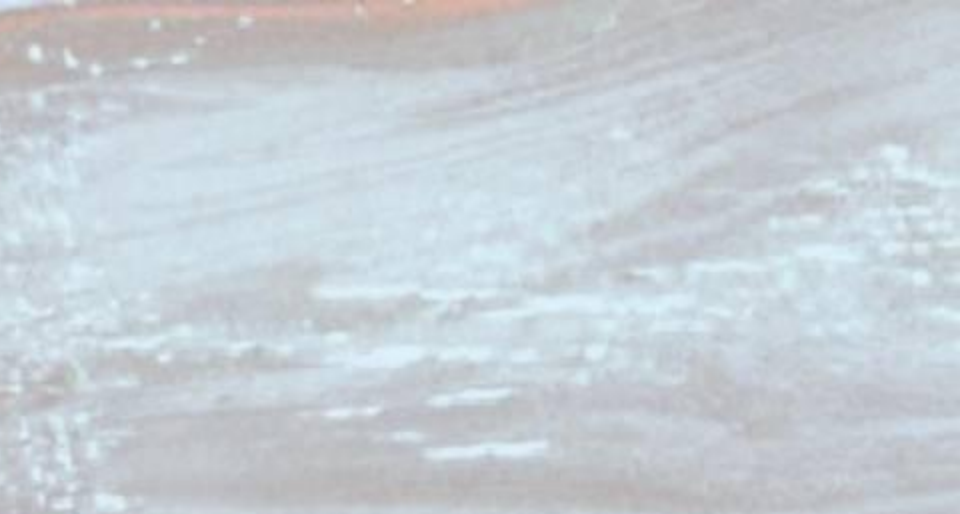




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- **FY 05 Field Work – KEFJ and GLBA**
- **Desire to expand study to other SWAN Parks and WRST (We are seeking other interested parks in which to work.)**
- **Cooperators performing similar studies at several lower 48 Parks. Met with ROMO resource managers and will begin preliminary evaluation in summer FY05**
- **Recommend this approach to all glacierized Parks with historical photographic record.**

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